IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: PELLENC, Roger

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TITLE: LEAF STRIPPER, MORE PARTICULARLY DESIGNED FOR SELECTIVE VINE LEAF STRIPPING

Preliminary Amendment: CLAIM AMENDMENTS

1. (Currently amended) Leaf stripping machine ~~specifically designed~~ for selective leaf stripping of a vine, ~~consisting of~~ comprising:

at least one leaf stripping head ~~(1) equipped~~ with a rotating drum ~~comprising~~ comprised of a lateral cylindrical opened wall ~~(3), mechanisms (17-18);~~

means for driving ~~this~~ the drum in rotation~~;~~;

an aspirating ~~mechanism (4) making it possible to create~~ means creating an intake air flow going through the lateral cylindrical opened wall ~~(3)~~ of ~~this~~ the drum~~;~~;

a ~~mechanism (5)~~ means to channel ~~this~~ air flow through a varying portion of the lateral wall~~;~~; and

a cutting ~~mechanism (14)~~ means installed near the portion of the lateral wall of the turning intake drum and oriented in parallel or approximately parallel to its axis of rotation ~~(A-A)~~, ~~characterized in that~~ wherein the cylindrical opened wall ~~(3)~~ of the drum ~~(2)~~ is ~~made~~ comprised of a flexible and deformable material that is permeable to the flow of air.

2. (Currently amended) Leaf stripping machine according to claim 1, ~~characterized in that~~ wherein the opened cylindrical wall ~~(3)~~ of the drum ~~(2)~~ is ~~made~~ comprised of a metallic fabric comprised of meshes or interlaced metallic rings of the "coat of mail" type.

3. (Currently amended) Leaf stripping machine according to ~~one of the claims 1 or 2, characterized in that the~~ Claim 1, wherein tangential rotational speed of the drum ~~(2)~~ is at least equal to ~~the~~ speed of movement ~~of the leaf stripping machine~~ during work.

4. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 3, characterized in that the~~ Claim 1, wherein the wall, being flexible and deformable ~~wall (3) of the leaf stripping machine~~ drum ~~(2)~~ is affixed to ~~the~~ elements of the circular upper end ~~(10)~~ and lower end ~~(11), made~~ and comprised of a deformable semi-rigid material.

5. (Currently amended) Leaf stripping machine according to claim 4, ~~characterized in that~~ wherein the drum ~~(2)~~ is suspended with a rotating ability by ~~means of its~~ an upper circular end element ~~(10)~~ thereof.

6. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 5, characterized in that it consists of mechanisms~~ Claim1, further comprising means for tensioning the flexible wall ~~(3)~~ in ~~the~~ a vertical direction.

7. (Currently amended) Leaf stripping machine according to claim 6, ~~characterized in that~~ wherein the tension ~~mechanisms~~ means are ~~made~~ comprised of a spring ~~(45)~~ acting by compression and arranged around the lower axle of rotation ~~(7)~~ of the drum, this spring being set against the lower part ~~(8)~~ of the drum.

8. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 7, characterized in that~~ Claim 1, wherein a supplementary ~~mechanism (16)~~ means for pulling ~~the~~ leaves ~~is~~ arranged in parallel to ~~the~~ an axle of the drum ~~(2)~~, and recessed from the cutting bar ~~(14)~~ relative to the vegetation during work.

9. (Currently amended) Leaf stripping machine according to claim 8, ~~characterized in that~~ wherein the supplementary ~~mechanism~~ means for pulling leaves is comprised of a rotating feeder ~~(16)~~ coupled to a rotating guide device ~~(M2)~~.

10. (Currently amended) Leaf stripping machine according to ~~one of the claims 8 or 9, characterized in that~~ Claim 8, wherein the supplementary ~~mechanism (16)~~ means for pulling leaves is placed in contact with the lateral wall ~~(3)~~ of the drum ~~(2)~~ or very close to it.

11. (Currently amended) Leaf stripping machine according to ~~one of the claims 9 or 10, characterized in that~~ Claim 9, wherein the rotating feeder ~~(16)~~ comprises an axle ~~(16a)~~ along which flexible vertical blades ~~(16b)~~ are affixed.

12. (Currently amended) Leaf stripping machine according to ~~one of the claims 9 or 10, characterized in that~~ Claim 9, wherein the rotating feeder ~~(16)~~ is comprised of a brush.

13. (Currently amended) Leaf stripping machine according to ~~any one of the claims 9 to 12, characterized in that the~~ Claim 9, wherein tangential speed of the rotating feeder ~~(16)~~ is at least equal to the tangential speed of the drum ~~(2) of the leaf stripping machine~~.

14. (Currently amended) Leaf stripping machine according to ~~one of the claims 1 or 8, characterized in that~~ Claim 1, further comprising a comb ~~(15) is~~ arranged in parallel to and in front of the cutting bar ~~(14)~~, considering ~~the~~ direction of movement ~~of the leaf stripping machine~~ during work.

15. (Currently amended) Leaf stripping machine according to ~~one of the claims 1 to 14, characterized in that the~~ Claim 1, further comprising a cutting assembly ~~(14-15; 14-15-16) is~~ arranged behind a diametral plane ~~(P-P)~~ of the rotating drum ~~(2)~~ oriented perpendicularly to ~~the~~ movement axis ~~(X-X)~~ of the leaf stripping head ~~(1)~~ during work.

16. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 15, characterized in that the~~ Claim 1, wherein vertical portions ~~(5c, 5d)~~ that define the aspirating opening ~~(9)~~ of the ~~mechanism~~ means for channeling the air flow ~~(5) run~~ running against the internal surface of the lateral wall ~~(3)~~ of the drum ~~(2)~~ and ~~in that these~~ wherein said vertical portions ~~(5c, 5d)~~ are ~~made~~ comprised of a flexible impermeable material.

17. (Currently amended) Leaf stripping machine according to claim 16, ~~characterized in that the mechanism (5)~~ wherein said means for channeling the flow of air is comprised of an impermeable cloth affixed over the rigid or semi-rigid frame.

18. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 17, characterized in that the~~ Claim 1, wherein a vertical cutting bar ~~(14)~~ has an orientation ~~according to which it forms~~ forming an angle on the order of +/- 45° and, preferably, an angle on the order of 20° with a radius of the rotating intake drum passing by the active edge of the cutting bar.

19. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 18, characterized in that the mechanisms~~ Claim 1, wherein means for driving the drum ~~(2)~~ in rotation comprise a vertical roller motor ~~(17)~~ arranged outside the drum ~~(2)~~ and at least one vertical counter-contact roller ~~(18)~~ placed inside the drum, the opened cylindrical wall ~~(3)~~ of the drum being pinched between the roller motor ~~(17)~~ and the counter-contact roller ~~(18)~~.

20. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 18, characterized in that the mechanisms~~ Claim 1, wherein means for driving the drum ~~(2)~~ in rotation comprise a vertical roller motor ~~(17)~~ arranged outside the drum ~~(2)~~ and a pair of counter-contact rollers ~~(18')~~ having parallel axes placed inside the drum and mounted with an ability to pivot around a vertical axle in the manner of a bogie, the opened cylindrical wall ~~(3)~~ of the drum located pinched between the roller motor ~~(17)~~ and the pair of counter-contact rollers ~~(18')~~.

21. (Currently amended) Leaf stripping machine according to ~~one of the claims 19 or 20, characterized in that it consists of~~ Claim 19, further comprising a common motorization (~~M2) that ensures:~~

~~———————~~ for driving in rotation of the rotating drum ~~(2)~~;

~~———————~~ activation of the cutting bar ~~(14)~~, and

~~———————~~ driving in rotation the feeder ~~(16)~~.

22. (Currently amended) Leaf stripping machine according to claim 21, ~~characterized in that~~ the wherein said common motorization ~~consists~~ is comprised of a hydraulic motor ~~(M2)~~ that drives:

- an eccentric having a connecting rod ~~(22) that is~~ coupled to ~~the~~ an upper end of the blade ~~(14a)~~ of the cutting bar ~~(14)~~;

- a coupling shaft connecting the vertical shaft ~~(20)~~ of the eccentric ~~(21)~~ and the upper end of the axle ~~(16a)~~ of the feeder ~~(16)~~; and

- ~~and~~ a vertical shaft ~~(26)~~ for driving the roller motor ~~(17)~~ arranged at a distance from the vertical coupling shaft ~~(25)~~ and connected to the latter by a transmission ~~(27, 28, 29)~~.

23. (Currently amended) Leaf stripping machine according to ~~one of the claims 19 or 20, characterized in that~~ Claim 19, wherein the counter-contact roller ~~(18)~~ or the pair of counter-contact rollers ~~(18')~~ is subjected to the action of elastic pushing mechanisms ~~(37)~~ that keep ~~it~~ permanently ~~under~~ pressure against the internal surface of the lateral wall ~~(3) of the drum (2)~~.

24. (Currently amended) Leaf stripping machine according to ~~any one of the claims 1 to 23, according to which~~ Claim 1, wherein the leaf stripping head ~~or each leaf stripping head (1)~~ is suspended on a carrier chassis ~~(36)~~ constructed and equipped with ~~mechanisms (36a) that permit~~ means permitting separating ~~it~~ from or bringing ~~it~~ together with the movement axis ~~(Y-Y) of the leaf stripping machine, characterized in that the~~; wherein a working position of the leaf stripping head ~~or each of the leaf stripping heads~~ relative to the axis ~~(Y-Y)~~ is regulated by a servo system acting as a function of the deformations supported by the flexible lateral wall ~~(3)~~ of the drum ~~(2)~~ during work.

25. (Currently amended) Leaf stripping machine according to claim 24, ~~characterized in that~~ wherein the servo system ~~consists of mechanisms~~ comprises means for detection ~~(33, 34)~~ of ~~the~~ deformations of the lateral wall ~~(3)~~ of the drum ~~(2)~~, which are housed inside the drum.

26. (Currently amended) Leaf stripping machine according to claim 25, ~~characterized in that the~~ wherein the detection ~~mechanisms consist~~ means are comprised of at least one sensor ~~(33)~~ housed inside the rotating drum ~~(2)~~, near the lateral flexible opened wall ~~(3)~~ of the drum.

27. (Currently amended) Leaf stripping machine according to claim 26, ~~characterized in that the~~ wherein said detection ~~mechanisms consist~~ means are comprised of ~~several~~ a plurality of sensors ~~(33)~~ positioned inside the rotating drum ~~(2)~~ in a vertical alignment, at a distance from each other.

28. (Currently amended) Leaf stripping machine according to ~~one of the claims 26 or 27, characterized in that~~ Claim 26, wherein each ~~the~~ sensor ~~(33) or each sensor (33)~~ is comprised of a

sensor using the Hall effect coupled to a sensor ~~(42A, 42B, 42C, 42D, ...)~~ comprised of~~, for example,~~ a contact shaft, preferably in a curved shape, in contact with the flexible wall ~~(3)~~ of the drum, ~~this~~ said sensor supporting a magnet acting together with the sensor using the Hall effect mounted affixed, in order to detect and measure the deformations of the flexible wall.

29. (Currently amended) Leaf stripping machine according to ~~any one of the claims 22 to 28, characterized in that~~ Claim 22, wherein the servo system comprises an electric jack ~~(41)~~ equipped with an electronic board ~~(43)~~ for servo control using an algorithm ~~that makes it possible to determine~~ determining successive deformations of the lateral wall ~~(3)~~ of the leaf stripping drum ~~(2)~~ as a function of ~~the~~ analysis and treatment of signals by the sensors ~~33~~, the servo system acting on a deformable parallelogram ~~(36a)~~ on which the leaf stripping head ~~(1), or each leaf stripping head (1),~~ is suspended in a manner so as to obtain the optimum position of the leaf stripping drum relative to the vegetation during work.